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All bulk samples of materials collected for analysis of asbestos content shall be submitted to the NVLAP accredited laboratory utilizing industry standard chain-of-custody protocol. Copies of Accreditation will be submitted within ten days of the award to the government for approval.

Materials which are assumed to be ACM or which are analyzed to be ACM's will be identified with red marking paint or crayon by the Inspector, thus allowing the demolition crew to avoid ACM's and enabling the abatement crew to remove ACM's. An inspection report will be compiled and retained which documents all locations of assumed ACM, sampling locations, sample analysis results and summary of ACM locations.

B. Record Keeping For ACM Removal

The work shall be the removal of ACM by competent persons trained, knowledgeable and qualified in the techniques of abatement, handling and disposal of ACM and asbestos contaminated waste and the subsequent cleaning of contaminated area, who comply with all applicable Federal, State and Local regulations, standards and codes governing asbestos abatement and any other trade work done in conjunction with the abatement. These regulations include:

1. Title 29 Code of Federal Regulations Section 1926.1101 Construction Standard
For Asbestos.
2. Title 29 Code of Federal Regulations Sections 1915.1101 Maritime Standard
For Asbestos.
3. Title 29 Code of Federal Regulations Section 1920.2 Access to

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Employee
Exposure and Medical Records.

4. Title 29 Code of Federal Regulations Sections 1910.1200 Hazard Communication.
5. Title 40 Code of Federal Regulations ASHARA
6. Title 40 Code of Federal Regulations Part 61 Subparts A and M.
7. National Emission Standard for Asbestos NESHAPS
8. Applicable state codes

The asbestos abatement contractor, will have all necessary Licensing and Certifications as stated in 40 CFR EPA and 29 CFR OSHA and will ensure that the following documentation's are filed:

1. Ensure written notification in accordance with 40 CFR Part 61.146 Subpart M, has been sent to the appropriate State and Federal air pollution control agency responsible for the enforcement of the National Emission Standard for Asbestos at least ten (10) days prior to the commencement of any on-site project activity.
2. Retain documentation that required permits, landfill site and transport arrangements are sufficient. Retain copies of landfill forms and transportation chain-of-custody forms.
3. Retain documentation that the contractor's employees that may be exposed to airborne asbestos fibers have been trained as required by the EPA, 40 CFR Part 763.93 Paragraph 7.
4. Retain documentation that all employees who may be exposed to airborne asbestos fibers have received medical monitoring as required by OSHA 29 CFR 1926.1101.
5. Retain manufacturer's certification that HEPA vacuums, negative pressure ventilators and any other equipment conform to ANSI 29.2-79.

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6. Document NIOSH approvals for all respiratory protective devices utilized on site.
7. Retain documentation of respirator fit testing for all Contractor employees and agents who must enter the work area.

C. Tasks During Abatement Activities:

1. File daily job progress notes detailing abatement activities.
2. File weekly written job progress reports detailing abatement activities.
3. File copies of all transport manifests, trip tickets and disposal forms for all asbestos and asbestos waste removed from the ship.
4. File all air sample or bulk sample analysis data collected during the abatement.

D. Personnel Protection During ACM Removal

Prior to the commencement of abatement activities all personnel who will be required to enter the work area or handle containerized asbestos waste will have received EPA certified training. Special on-site training on equipment and procedures unique to this job site will be performed as required. Training in Emergency response and evacuation procedures will be provided. All respiratory protection will be provided to workers in accordance with the written respiratory program. This program will be available in the clean room. This includes all items in OSHA 29 CFR 1926.1101 and OSHA 29 CFR 1915.1101. Workers will be supplied with personally issued, individually identified respirators. Respirators will be selected that meet the following level of protection requirements:

1. Type "C" air supply pressure demand for full shift workers, in unknown fiber concentrations as per 1926.1101
2. PAPR will be utilized for inspection or entrance for up to 1 hour or if personal air monitoring shows levels less than 3.0 f/cc.

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3. Half-face dual HEPA cartridge respirators will be used for initial barrier erection, other set-up needs and abatement when air monitoring shows levels less than 0.1 f/cc and greater than .01 f/cc.

4. Respirators are not required outside of the work area when air monitoring shows levels less than .01 f/cc.

Sufficient numbers of disposable coveralls and booties will be provided for all employees, State and Federal inspectors, air sampling professionals, and any other authorized visitors. Non-skid footwear will be supplied to all employees. These may be reusable steel-toed rubber boots or canvas shoes which will be discarded as asbestos contaminated waste at conclusion of the project.

E. Description of ACM Removal

The abatement areas will be restricted to authorized and trained personnel. A logbook will be maintained in the clean room to document the entrance of the work area by anyone and will record name, affiliation, time in and time out for each entry.

The contaminated work area will be separated from the remainder of the uncontaminated ship by the use or construction of air tight barriers. Warning signs as required by OSHA 29 CFR 1915 and 1926 will demarcate the work areas. The danger signs meeting the specifications of OSHA 29 CFR 1915 and 1926 will be posted at any location and approaches to any location where airborne concentrations of asbestos fibers may exceed ambient background levels. Signs will be placed at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure.

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Access to the work area will be through a single worker decontamination system located adjacent to the work area. Emergency procedures, as detailed in the Emergency Plan Section, will be in written form and prominently posted in the clean room and the equipment room of the decon unit. Everyone prior to entering the work area shall read and sign off on these procedures to acknowledge understanding of these procedures. Telephone numbers of all Emergency response personnel will be prominently posted in the clean room.

Polyethylene sheeting for critical barriers will be a minimum of one layer of 6-mil thickness. Poly sheeting used for worker decon unit will be opaque or black. Disposal bags will be of 6-mil polyethylene, pre-printed with labels as required by EPA 40 CFR 61.152 and OSHA 29 CFR 1926.1101. Disposal drums shall be metal or fiberboard with locking rings with Stick-on labels as per EPA and OSHA requirements.

Surfactant (wetting agent) will be a mixture of 50/50 poly-oxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or specified by manufacturer.

The worker decon unit will consist of at least a clean room, shower room and an equipment room, each separated from each other and the work area with critical barriers. Entry to and exit from all airlocks and decon system chambers will be through curtained doorways consisting of either two overlapping sheets of poly or sufficient negative air is established to allow one sheet of weighted poly on the negative air side of the doorway. Clean room will be adequately sized to accommodate the work crew. Benches will be provided as well as hooks for hanging up street clothes. Shelves for storing respirators will also be provided in this area. Clean disposable clothing, replacement filters, towels and other

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necessary items will be provided in adequate supply in the clean room. A location for postings will also be provided here. Shower room will contain one or more showers as needed to accommodate workers. Each shower head shall be supplied with hot and cold water adjustable at the tap. Shower water will be drained, collected and filtered through a system with at least a 5 micron particle size collection capability.

The equipment room will be used for storage of equipment and tools at the end of a shift. Replacement filter for HEPA vacuums and negative ventilators, extra tools, surfactant and other tools and supplies that may be needed during the abatement may be stored here. A drum or holder lined with 6-mil labeled bags will be located in this area for disposable clothing. Contaminated foot wear will be stored here for use the next day. All personnel and authorized EPA qualified visitors will follow the entry and exit procedures:

1. All personnel will proceed first to the clean room, remove all street clothing and don appropriate protective clothing, respirators and other safety equipment as required for conditions in the work area. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.
2. Personnel wearing designated personal protective equipment will proceed from the clean room through the shower and equipment room to the work area.
3. Before leaving the work area all personnel will remove gross contamination from the outside of respirators and protective clothing by brushing, vacuuming or wet wiping procedures.
4. Personnel will proceed to the equipment room where they remove all protective equipment except respirators. Deposit disposable clothing into appropriately labeled containers. Reusable footwear will be stored in the equipment room when not in use in the work area.

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5. Still wearing a respirator, the personnel will proceed to the shower, clean the outside of the respirators and exposed areas of the face and body before removing respirator. Complete showering and shampooing will then occur to remove any residual asbestos contamination.

6. After showering and drying, proceed to the clean room and dress in either street clothes or clean disposables, whichever is appropriate.

All ACM will be wetted with an amended water solution using equipment capable of providing a fine spray mist, in order to reduce airborne asbestos fiber concentrations when the material is disturbed. All removed material will be wet enough to prevent fiber release until it can be containerized for disposal. A high humidity will be maintained in the work area by misting or spraying to assist in fiber settling and reduce airborne concentrations. Saturated ACM will be removed in manageable sections. Removed material will be containerized before moving to a new location for continuance of work. Surrounding areas will be periodically sprayed and maintained in a wet condition until visible material is cleaned up. Material removed from ship structures or components will not be dropped or thrown to the floor. Material will be removed as intact sections or components whenever possible and carefully lowered to the floor.

Containers (6-mil poly bags and/or drums) will be sealed when full. Double bagging of waste material will be utilized. Large components removed intact may be wrapped in 2 layers of 6-mil poly secured with tape and labeled with stickers.

Upon completion of all stripping work, surfaces from which ACM has been removed will be wet brushed or wiped to remove all visible residue. After the work area has been rendered free of visible residues, a thin coat of penetrating encapsulant will

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be applied to all surfaces in the work area. Following the completion of clean-up operations, the air sampling professionals will collect final air sampling.

All samples, analyzed by PCM, in all locations shall indicate concentrations of airborne fibers less than 0.009 f/cc for release of the work area. Areas exceeding this level will be re-cleaned using procedures listed above and retested until satisfactory results are obtained.

E. Employee Training and Monitoring

Training certification will meet the requirements of EPA 40 CFR Part 763.93 Subpart E. All supervisors or "competent persons" will be trained as required by 29 CFR 1915 and 1926 OSHA. Copies of certificates with pictures will be kept on file at the project site office.

Personal air sampling will be conducted as set forth in 29 CFR 1915 and 1926. Analytical results of daily air sampling during asbestos removal activities will posted no later than 24 hours after sample collection. A temporary laboratory for Phase Contrast Microscopy (PCM) analysis of air samples will be installed at or near the project site office.

F. Asbestos Removal Project Closing

The records of all asbestos removal activities performed on this ship will be maintained per requirements of 29 CFR OSHA and 40 CFR-EPPA These records will include:

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1. U.S. Government Agency supplied documents pertaining to asbestos for this ship.
2. The survey of asbestos containing materials as performed and documented.
3. Copies of individual Asbestos Inspectors Certificates.
4. Laboratory analyses reports of bulk samples collected during the survey.
5. Copies of Accreditation for the Laboratory(s) which analyzed the bulk samples.
6. Asbestos contractor license.
7. Certifications of training for all asbestos workers on this project.
8. Medical monitoring of all asbestos workers.
9. NIOSH approvals for respirators used on the project.
10. Respirator fit testing records of employees on this project.
11. Asbestos Worker exposure air monitoring results.
12. Clearance air sampling results.
13. NIOSH 582 certificates for air sampling professionals.
14. Documentation's of HEPA filtered equipment used on the project.
15. Waste transportation Chain-of-Custody forms.
16. Landfill receipts of asbestos waste.
17. Copies of weekly written progress reports.
18. Copy of the NESHAPS 10 day notification.

Electric Cables

Samples are collected of each cable size and are catalogued by visual parameters such as exterior diameter (excluding any armor), inner sleeve color, number of conductors, color of conductors and filler color. An appropriate number of samples is collected for each size of cable as determined by the total amount of such size cable on the vessel. 10-15 samples of each size are usually appropriate, unless there are not enough cables of that size, at which point each identified cable is sampled. The installation I.D. numbers are utilized to identify the cables. When cables are analyzed as positive or negative, the visual identifying parameters are used to define the characteristics of the PCB containing cables. These PCB cables are then catalogued into a subgroup as PCB containing electrical cables. It then becomes feasible to visually identify PCB containing wires by visual comparison of the characteristics.